

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A controller comprising:

a control circuit comprising:

an input;

an output;

a forward path ~~that includes an~~ coupled to the input and an and to the output;

a feedback path coupled to the output and to the input; and

a sensor, which is in the forward path or in the feedback path ~~between the input and the output~~, the sensor for generating a sensor signal;

an error signal generator to generate an error signal and to provide the error signal to the control circuit such that the error signal is applied to a signal on the forward path of the control circuit, wherein the error signal is predetermined and wherein the error signal generator is external to the control circuit, wherein the forward path is configured to generate an output signal based on the sensor signal and the error signal, the output signal being sent along the feedback path to the input of the forward path; and

a detector, which is coupled to the forward path, to obtain an intermediate signal from the forward path between the input and the output, the detector for generating a control signal based on the intermediate signal;

wherein the forward path comprises a control device, which is coupled to the input, to limit the output signal to a predetermined value, the detector for controlling the control device using the control signal.

2. (Previously Presented) The controller of claim 1, wherein the detector comprises:
a storage device to store a measurement signal; and
a comparator to compare the intermediate signal to the measurement signal and to output a comparator signal.

3. (Previously Presented) The controller of claim 2, wherein the detector further comprises:
decision logic to receive the comparator signal and to control the control device in accordance with the comparator signal.

4. (Previously Presented) The controller of claim 1, wherein the control device comprises a clamp circuit.

5. (Previously Presented) The controller of claim 2, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator.

6. (Previously Presented) The controller of claim 1, further comprising:
a time signal generator to generate a time signal output, wherein the error signal generator is configured to generate the error signal based on the time signal output.

7. (Previously Presented) The controller of claim 1, wherein the sensor comprises a magnetoresistive sensor.

8. (Currently Amended) A method of operating a controller comprised of:

an input;

an output;

a forward path that includes an input and an output;

a feedback path coupled to the output and to the input; and

a sensor, which is in the forward path or in the feedback path ~~between the~~

~~input and the output~~, the sensor generating a sensor signal, the forward path generating an output signal based on the sensor signal, the output signal being applied to the input of the forward path via the feedback path;

wherein the method comprises:

generating an error signal that is predetermined, the error signal being generated outside the forward path and the feedback path;

applying the error signal to a signal on the forward path between the input and the output;

obtaining an intermediate signal from the forward path between the input and the output, the intermediate signal being obtained using a detector that is coupled to the forward path;

generating a comparison signal by comparing the intermediate signal to a stored measurement signal;

generating a control signal based on the comparison signal; and

applying the control signal to a control device in the forward path, the control device being coupled to the input, and the control device limiting the output signal to a predetermined value in response to the control signal.

9. (Previously Presented) The method of claim 8, wherein the measurement signal is stored in a storage device, and comparing is performed using a comparator.

10. (Previously Presented) The method of claim 8, wherein the control signal is generated via decision logic, the decision logic being controlled by the comparison signal, the decision logic generating the control signal if a predetermined criterion is satisfied.

11. (Previously Presented) The method of claim 9, wherein the comparator comprises at least one of a signal sign comparator and a signal level comparator.

12. (Previously Presented) The method of claim 10, wherein the error signal is generated based on an output of a time signal generator and an output of the decision logic; and

wherein the intermediate signal is based on both the sensor signal and the error signal.

13. (Previously Presented) The method of claim 1, wherein the control signal comprise a signal output of the detector.

14. (Previously Presented) The controller of claim 1, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path.

15. (Previously Presented) The method of claim 8, wherein the sensor generates the sensor signal based on one or more input signals applied to the input of the forward path.

16. (Currently Amended) A controller comprising:

a control circuit comprising:

an input;

an output;

a forward path ~~that includes an~~ coupled to the input and an and to the output;

a feedback path coupled to the output and to the input; and

a sensor, which is in the forward path or in the feedback path ~~between the input and the output~~, the sensor for generating a sensor signal based on an input signal applied to the input, wherein the forward path is configured to generate an

output signal based on the sensor signal, the output signal being sent along the feedback path to the input of the forward path;

an error signal generator to generate an error signal and to provide the error signal to the control circuit such that the error signal is applied to a signal on the forward path of the control circuit, wherein the error signal is predetermined and wherein the error signal generator is external to the control circuit, wherein the forward path is configured to generate an output signal based on the sensor signal and the error signal, the output signal being sent along the feedback path to the input of the forward path;

a detector, which is coupled to the forward path, to obtain an intermediate signal from the forward path between the input and the output, the detector for generating a control signal using the intermediate signal;

wherein the forward path comprises a control device, which is coupled to the input, to limit the output signal to a predetermined value, the detector for controlling the control device using the control signal.

17. (Previously Presented) The controller of claim 16, wherein the detector comprises:
a storage device to store a measurement signal; and
a comparator to compare the intermediate signal to the measurement signal and to output a comparator signal.

18. (Previously Presented) The controller of claim 17, wherein the detector further comprises:

decision logic to receive the comparator signal and to control the control device in accordance with the comparator signal.

19. (Previously Presented) The controller of claim 16, wherein the control device comprises a clamp circuit.

20. (Previously Presented) The controller of claim 17, wherein the comparator comprises at least one of a signal level comparator and a signal sign comparator.